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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Osamu Okuda

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12/05/2008

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WASHINGTON, DC 20006

EXAMINER

NGUYEN, DONGHAI D

ART UNIT

PAPER NUMBER

3729

MAIL DATE

DELIVERY MODE

12/05/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/524,853	Applicant(s) OKUDA ET AL.	
	Examiner DONGHAI D. NGUYEN	Art Unit 3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 1-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed on August 28, 2008 has been considered and made of record.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,920,397 to Itoh in view of US Patent 6,404,912 to Lehnert et al and US Patent 6,573,987 to Shires.

Regarding claim 12, Itoh discloses a component placing method comprising: holding one or more components (b) releasably by a respective one of one or more component holding members (10a), each of the one or more component holding members (10a) having a central axis and the one or more component holding members being arranged in a row (see Fig. 3); sequentially capturing images of the one or more components held by the respective one or more component holding members from a direction along the central axes of the one or more component holding members (see Fig. 4 and Col. 5, lines 50-54); recognizing holding postures of the one or more components on the respective one or more component holding members on a basis of the images captured from the direction along the central axes of the one or more component holding members (see Col. 5, line 64 to col. 6, line 5); and placing the components

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on a circuit board (c) on a basis of the recognized holding postures of the components (see Col. 5, lines 11-15), wherein the images of the one or more components taken the direction along the central axes of the one or more component holding members are images of a component imaging plane of the one or more components a component imaging plane being a plane orthogonal to the central axis of the respective component holding member and upon which light is incident (see Fig. 2 or 4). Itoh does not disclose the capturing images of the components from a direction generally orthogonal to the central axes of the component holding members and to a direction of the arrangement of the component holding members and placing the components on the basis of the images captured from the direction generally orthogonal to the central axes and to the direction of the arrangement. Lehnert et al teach capturing image of the component (18) from a direction generally orthogonal to the central axes of the component holding member and to a direction of the arrangement of the component holding member (see Fig. 2) for accurately positioning the component on the basis of the images captured from the direction generally orthogonal to the central axes and to the direction of the arrangement (see Col. 4, lines 25-29). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Itoh by utilized the capturing image as taught by Lehnert et al for accurately measuring the position and orientation of the component with respect to the component holding member thereby accurately placing the components to the circuit board. Itoh in view of Lehnert et al disclose each of the images of the component imaging planes of the components is captured in a state in which horizontal light in a generally parallel direction to the component imaging plane, vertical light in a generally orthogonal direction to the component imaging plane, but do not disclose light inclined at a generally medial angle between

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the horizontal light and the vertical light simultaneously illuminate the component imaging plane. Shires teaches each of the images of the component imaging planes of the components (18) is captured in a state in which horizontal light (by LED 70) in a generally parallel direction to the component imaging plane, vertical light (by LED 62) in a generally orthogonal direction to the component imaging plane, and light inclined at a generally medial angle (by LED 74) between the horizontal light and the vertical light simultaneously illuminate the component imaging plane (see Figs. 1 and 3) for capturing and inspecting the component. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Itoh/Lehnen et al by utilized the vertical, horizontal and inclined lights as taught by Shires for capturing and inspecting the component.

Regarding claim 13, see Fig. 4 of Itoh, Fig. 2 of Lehnen et al and Figs. 1-3 of Shires.

Response to Arguments

4. Applicant's arguments with respect to claims 12 and 13 have been considered but are moot in view of the new ground(s) of rejection.

5. This application contains claims 1-11 are drawn to an invention nonelected with traverse in the reply filed on March 26, 2008. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DONGHAI D. NGUYEN whose telephone number is (571)272-4566. The examiner can normally be reached on Monday-Friday (9:00-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Bryant can be reached on (571)-272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DN
December 2, 2008

/Donghai D. Nguyen/
Primary Examiner, Art Unit 3729